## REMARKS

Claims 1-10 have been examined. With this amendment, Applicant adds claims 11-15. Claims 1-15 are pending in the application.

### I. Formalities

Applicant thanks the Examiner for acknowledging the claim for foreign priority and for confirming receipt of the certified copy of the priority document.

Applicant thanks the Examiner for initialing and returning a copy of the form PTO-1449 submitted with Information Disclosure Statement filed on December 4, 2000.

Applicant thanks the Examiner for indicating that the drawings submitted on December 4, 2000, have been accepted.

Please note that Applicant is submitting one replacement drawing sheet including Fig. 9. Applicant has corrected a minor error in a line extending from Block S113. The line extending from Block S113 to after Block S131 has been corrected to extend from Block S113 to Block S131.

### II. Claim Rejections - 35 USC § 103

#### A. Claims 1-6, 8 and 10

The Examiner has rejected claims 1-6, 8 and 10 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US Patent 5,315,407) ["Sakamoto"] in view of Delabastita (US Patent 5,828,463)["Delabastita"] and Bouton (Inside ADOBE® Photoshop® 5, by Gary David

Bouton, Barbara Mancuso Bouton, and Gary Kubicek, New Riders Publishing, copyright 1998, pages 46-49) ["Bouton"]. For at least the following reasons, Applicant traverses the rejection.

A fundamental difference between the present invention and Sakamoto is that the present invention prevents a Rosette pattern from appearing by causing a deliberate displacement, whereas, Sakamoto prevents uneven and unstable image reproduction due to fluctuations in halftone dot area by correcting a displacement. Thus, the goal and the way of achieving the goal are totally different between the present invention and the invention in Sakamoto.

Claim 1 recites a halftone dot producing apparatus that comprises "a phase selection section for selecting a phase between at least a first threshold matrix of said threshold matrixes and a first monochromatic image represented by a multi-tone level image data to which said first threshold matrix is applied." The Examiner contends that Sakamoto discloses calculating a phase (Uc, Vc) which corresponds to the claimed phase.

Applicant submits that point (Uc, Vc) represents the corrected scanning coordinates (col. 9, line 36) and request further clarification as to how a point on a grid can correspond to the claimed phase.

In addition, the recitations in claim 1 include a first threshold matrix that is applied to a multi-tone level image data representing a first monochromatic image and threshold matrixes (which do not include the first threshold matrix) that are applied to a plurality of multi-tone level image data (which do not include the first monochromatic image).

The Examiner contends that figure 7, which illustrates two coordinate systems, and a section describing the shifting of vertices between the two coordinate systems disclose the

claimed application of a "first threshold matrix of said threshold matrixes and a first monochromatic image represented by a multi-tone level image data." The Examiner concedes that Sakamoto does not disclose the claimed "applying threshold matrixes associated with multi-tone level image data representative of monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, to the multi-tone level image data representative of said monochromatic images excepting said first monochromatic image, of said plurality of multi-tone level image data, with a phase determined on a fixed basis." However, the Examiner contends that Delabastita cures this deficiency. The Examiner contends that one skilled in the art would have been motivated to combine the references because each color component must be properly positioned relative to the other color components in order to print correctly.

Sakamoto discloses a method of preventing fluctuations in size and shape which occur when halftone dots from a scanning coordinate system are converted to a screen coordinate system (see Abstract and Summary of the Invention). The method includes the displacement of vertices of a halftone dot to a lattice point on the scanning coordinate system, then correcting an address for a recording pixel based in the displacement, and comparing the corrected address of the recording pixel to the image data to determine if it should be exposed or not (col. 7, lines 14-26). This make the positional relation between the recording pixels and the screen pattern data approximately constant (col. 7, lines 27-31).

Delabastita discloses a method of improving color fidelity by making the phase of a rosette pattern on at least one screen dependent on tone (Abstract). Delabastita explicitly

discloses that the rosette pattern of its invention is not based on the spatial oscillations due to the wrong alignment of the screens (col. 4, lines 63-67).

Applicant submits that Sakamoto clearly discloses spatial displacement of halftone dots based on the displacement of vertices to lattice points. Further, the phase shifting of Delabastita does not correspond to the spatial displacement of halftone dots. Therefore, if the two methods were combined as suggested by the Examiner, it would produce one screen of a multi-tone image whose halftone dots are spatially different from the halftone dots of the remaining screens. Clearly, this would produce undesirable color images since the halftone dots of the separate screens would not overlap. Accordingly, one skilled in the art would not have combined at least Sakamoto and Delabastita as contended by the Examiner.

Buton does not make up for the above deficiencies.

Further, the Examiner concedes that Sakamoto and Delabastita do not disclose that the phase is selected but applies Buton to allegedly cure the deficiency.

A point (Uc, Vc) disclosed in Sakamoto represents coordinates calculated based on a displacement using the equations (13a) and (13b) (col. 9, lines 26-35). There, the coordinates (Uc, Vc) are calculated by adding the inverted vector of the displacement. Thus, even if, for the sake of argument alone, Sakamoto discloses a phase, Sakamoto could only disclose one phase (Uc, Vc) for the obtained displacement. Since only one phase can be obtained using the above equations in Sakamoto, Applicant submits that one skilled in the art would not use the handler of Bouton, which merely changes an amount of lightness or saturation, in the technique of Sakamoto because the handler of Bouton would only be applicable with the selection of a

plurality of phases. Therefore, the Examiner's proffered reason for combining Bouton with at least Sakamoto is not supported in the prior art.

Also, the Examiner contends that the "phase control section" of the present invention is disclosed in Sakamoto. Applicant disagrees. The present invention and Sakamoto are quite different in terms of "control of phase" as follows.

The present invention controls a phase between a threshold matrix and multi-tone level image data to which the threshold matrix is applied. To the contrary, Sakamoto controls exposure for each pixel according to a displacement between a pixel position on a recording medium and a position within each of the halftone lattices composing the halftone image data (a position on digital data). As apparent from the description, Sakamoto has nothing to do with a relative phase between a threshold matrix and a multi-tone level image data.

Thus, for at least the reasons given above, Applicant submits that claim 1 is patentable over the cited art.

Because claim 10 recites features similar to those given above with respect to claim 1, Applicant submits that claim 10 is patentable for at least reasons similar to those given above with respect to claim 1.

Applicant submits that claims 2-6 and 8 are patentable at least by virtue of their dependency on claim 1.

In addition, claim 2 recites that a "phase selection section selects any one of a plurality of phases between a phase in which a Rosette pattern of a clear center appears... and a phase in which a Rosette pattern of a dot center appears." In claim 1, the Examiner contends that the

phase selection section corresponds to the calculation of point (Uc, Vc) disclosed in Sakamoto. There is no disclosure in Sakamoto that the coordinate transformation involves a Rosette pattern or that such a Rosette pattern selection is even compatible with the coordinate transformation. The Examiner concedes that Sakamoto does not disclose a phase selection of a Rosette pattern, but attempts to cure this deficiency by applying Delabastita. The Examiner provides no explanation as to how the calculation of point (Uc, Vc) and a Rosette pattern phase are compatible or related, but contends that a Rosette pattern in Delabastita corresponds to the claimed selection.

Applicant submits that the Examiner's shifting of the meaning of the claimed phase selection section is inconsistent and improper.

Claim 8 recites that a halftone producing apparatus comprises a "handler for selecting a phase between said first threshold matrix and said first monochromatic image." The Examiner concedes that Sakamoto and Delabastita do not disclose this feature, but applies Bouton to allegedly cure the deficiency.

Applicant submits that the alleged phase selection of Sakamoto is dependent on the scanning coordinate system and the screen coordinate system. Delabastita discloses that the phase is dependent on the intensity level of the original image (col. 4, lines 64-44). There is no disclosure or suggestion in either reference that the alleged phase is user selectable, therefore there is no need for the claimed handler. Accordingly, the combination of Sakamoto, Delabastita and Bouton can only be made through improper hindsight since there is no support in the prior art.

**B. Claims 7 and 9**

The Examiner has rejected claims 7 and 9 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto in view of Delabastita, Bouton, and Usami (US Patent 5,781,709) ["Usami"]. For at least the following reasons, Applicant traverses the rejection.

Claim 7 recites a halftone dot producing apparatus that comprises "a dot area percentage selection section for selecting a dot area percentage." The Examiner concedes that Sakamoto and Delabastita do not disclose the claimed dot area percentage selection, but applies Usami to allegedly cure the deficiency. The Examiner contends that one skilled in the art would have been motivated to combine the teachings of Usami with Sakamoto, Delabastita and Bouton in order to correct the color of the resultant image output.

Applicant submits that one skilled in the art would not have combined the teachings of at least Sakamoto and Delabastita with Usami because the color correction of Usami is not designed for the output images disclosed in Sakamoto and Delabastita. Usami discloses a method of creating a color proof that approximates a printed color document (Abstract). In order to accomplish this, Usami discloses a lookup table 21 that is generated by varying a dot area percentage (col. 6, lines 34-43). To the extent that Usami discloses a dot area percentage, it is in context of producing a color proof CPb (fig. 1) and not the printed color document 12 of element 11 as implicitly contended by the Examiner.

There is no disclosure or suggestion that lookup table 21 is used in the generation of printed document 12 (see fig. 1) nor is there any support to back up the Examiner's contention that the color of the resultant image output from the devices in Sakamoto and Delabastita, which

would correspond to the printed document 12 rather than the color proof CPb, would be corrected by lookup table 21. In fact, since Delabastita already corrects for the color based on the tone of an image (image density), a further correction based on the dot area percentage is not needed.

Because claim 9 depends on claim 7, Applicant submits that claim 9 is patentable at least by virtue of its dependency.

## III. New Claims

With this amendment Applicant adds claims 11-15. Applicant submits that these claims are patentable at least by virtue of their respective dependencies, as well as the features set forth therein.

## IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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